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FITEL FUSION SPLICERS

S178A

Bound to Innovate

eFriendly Resource saving

Hand-Held Core-Alignment Fusion Splicer

FITEL NEW Fusion Splicer

The FITEL S178A Hand-Held Core-Alignment Fusion Splicer is the latest, state-of-the-art addition to the S17x series of splicers. By combining speed, precision, durability and portability in one unit, the S178A Fusion Splicer ushers in an entirely new range of applications for core alignment splicing.

Equipped with a new alignment system that can save up to 20% splicing time, the S178A Splicer's improved heating mechanism can also reduce protection sleeve shrink time by more than 30%. In addition, a newly incorporated USB 2.0 interface speeds PC communication and image/video transfer, while enhancing reliability.

Although the S178A Fusion Splicer is significantly smaller and lighter in weight than previous models, its canopy design, durable metal body frame and rubber protection corners provide robust protection, enabling use in demanding environments without compromising splicing performance. Along with its rugged durability, the splicer also offers convenience. A new battery system allows up to 200 splicing cycles (Splicing/heating) before additional batteries are needed, and an innovative, mirror-free alignment system makes maintenance work a snap.

While the S178A Fusion Splicer is fast and durable, it continues the FITEL tradition of quality and excellence by delivering precise, accurate splicers even under rigorous conditions in the field.

The S178A Fusion Splicer is your versatile best choice for a wide range of uses including FTTx, LAN, backbone, enterprise, long-haul installations, data-center and/or OEM applications. It is also an excellent option for use in the conventional telecommunications industry, along with other industries (including oil and gas).

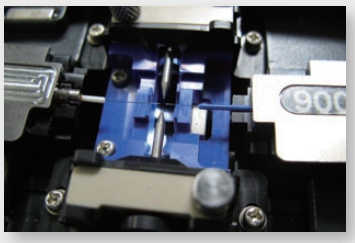
FURUKAWA ELECTRIC

Key features

- **Rugged and compact handheld design** endure harsh environmental conditions
- **Fast splice (7 sec)** at super low loss and Fast Heating (25 sec)*1
- **200 cycles (Splicing & Heating)** with new battery configuration*2
- **Available for All METRO/LAN/FTTx fibers** including ultra bend-insensitive fibers (e.g. EZ-Bend™)
- **Splicer is compatible with the Seikoh Giken and Diamond Splice-on-connector (SOC)**
- **Easy maintenance** - Easy electrode replacement /mirror free alignment system
- **Easy Software upgrade** via the internet
- **Easily exchanged fiber holder systems** (tight holder/fiber holder/SOC holder)
- **PC interface software** to allow user manage splicing recipes and splicing results
- **Auto-start** shrink sleeve oven feature
- **Improved GUI** to further enhance ease-of-use
- **Large memory** for storing data (2,000 splice data) and image (100 images)
- **RoHS compliant**

*1 By using semi-auto mode for splicing and pre-heating mode for heating.
*2 By using 2-batteries, semi-auto mode for splicing and regular made for heating.

Compatible with Splice-on-connector (SOC)



FITEL Splicer SOC partners

SEIKOH GIKEN

DIAMOND
the fiber meeting

Under Tough Environment

S178A passed criteria as below *3 ;

- **Drop Resistance -** 76 cm Drops from 5 different angles
- **Water Resistance -** IPX2 rating drip proof *4
- **Dust Resistance -** IP5X rating dust proof *5

*3 Above tests were performed at Furukawa Electric Co., Labs, and do not guarantee that the machine will be undamaged under these conditions.
*4 IPX2 rating drip proof means that the machine can be exposed to 3 mm/min drip for 10 min with 15° tilt and still functions.
*5 IP5X rating dust proof means that the machine can be exposed to dust particles with a diameter of 0.1 to 25 μm for 8 hours and still functions.

Drop Resistance

Water Resistance

Dust Resistance

SPECIFICATIONS

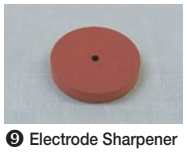
Applicable Fibers	SM, MM, DSF, NZD, EDF, BIF/UBIF (Bend insensitive fiber)
Cladding Diameter	80~150 μm
Coating Diameter	160~900 μm
Fibers Cleave Length	5~16 mm
Average Splice Loss	SM: 0.02 dB, MM: 0.01 dB, DSF: 0.04 dB, NZD: 0.04 dB
Splice Time	7 seconds (semi-auto mode) 9 seconds (regular mode)
Heat Time	25 seconds (S922: 40mm Sleeve, S921: 60mm Sleeve) (Pre-heat mode) 31 seconds (S922: 40mm Sleeve, S921: 60mm Sleeve) (regular mode)
Splice Programs	Max. 150
Automatic Splicing Selection	SM: SM, DSF, NZD, BIF/UBIF, MM: MM
Heat Programs	Max. 18
Automatic Heating Start	Available
Applicable Sleeves	20/40/60 mm
Fiber Holding	Tight holder (Loose tube applicable) or Fiber Holder System
Tension Test	1.96N
Fiber Image Magnification	304X, 608X
Splice Memory	Max. 2,000
Image capture Capacity	Last 100 images to be automatically captured + Up to 24 images to be stored permanently
Dimension	127W × 199D × 105H mm (not including shock absorber) 159W × 231D × 130H mm (including shock absorber)
Weight	1.9 kg (without battery) 2.3 kg (with two batteries)
Monitor	3.5” color LCD monitor
Data Output	USB ver.2.0 mini
Diaplaying Language	20 languages (e.g. English, Spanish, Japanese, Chinese)
Battery Capacity	Typical 80 splice/heat cycles with single battery*6 Typical 200 splice/heat cycles with 2 batteries*7
Altitude	5,000 mh
Operating Temperature	-10 to +50 °C (without excessive humidity)
Storage Temperature	-40 to +60 °C (without excessive humidity)
Power Source	AC Input 100 to 240 V (50/60 Hz), DC Input 11 to 17 V

*6 The number of the splicing and heating the machine can produce using a fully charged brand new battery at room temperature of 20 °C, semi-auto mode for splicing and regular mode for Heating. Depending on the condition of the batteries and operation environment, the number can vary.
*7 The number of the splicing and heating the machine can produce using 2 fully charged brand new batteries at room temperature of 20 °C. Depending on the condition of the batteries and operation environment, the number can vary.

STANDARD PACKAGE

Item	P/N	Quantity
❶ S178A Main Body	S178-A-A-0001	1
❷ Hard Carrying Case	HCC-01	1
❸ Battery Pack Depending on the package	S943B	1 or 2
❹ Battery Charger	S958B	1
❺ Spare Electrodes	S969	1pair
❻ AC Adaptor for S178A	S976A	1
❼ AC Adaptor for S958B	S977A	1
❽ AC Cable Cord For S976A/S977A	—	2
❾ Electrode Sharpener	D5111	1
❿ Cleaning Brush	VGC-01	1
User Manual	FTS - 347	1

❺ Spare Electrodes


❾ Electrode Sharpener

❿ Cleaning Brush

Optional Components

Item	P/N	Quantity
❶ Soft Carrying Case	SCC-01	1
❷ Cooling Tray	CTX-01	1
❸ Angled Stand	AGS-01	1
❹ Working Belt	WBT-01	1
❺ USB Cable	USB-01	1
❻ Car Cigarette Cable	CDC-01	1
❼ Tight Holder		
16 mm Cleave length	S712T-016	1pair
10 mm Cleave length	S712T-010	1pair
❽ Fiber Holder		
160 μm coating diameter fiber	S712S-160	1pair
250 μm coating diameter fiber	S712S-250	1pair
500 μm coating diameter fiber	S712S-500	1pair
900 μm coating diameter fiber	S712S-900	1pair
❾ SOC Holders		
<For Ferrule>		
Seiko Giken FC/SC connector (9 mm)	S712C-SGS9-L	1
Seiko Giken FC/SC connector (5 mm)	S712C-SGS5-L	1
Seiko Giken LC connector (9 mm)	S712C-SGL9-L	1
Seiko Giken LC connector (5 mm)	S712C-SGL5-L	1
Diamond E-2000/F-3000 connector	S712C-DM25-L	1
<For Cordage>		
Seiko Giken Cordage (5 mm)	S712C-SGC5-R	
Seiko Giken Cordage (9 mm)	S712C-SGC9-R	1
Diamond Cordage (5 mm)	S712C-DMC5-R	1
Smart Fuse Software Interface for Machine	SF-01	1

❸ Angled Stand in Action

❹-1 Working Belt in Action

❹-2 Working Belt in Action

Ordering Number Form S178A-(X1)-(X2)

Category		Code	Remark
X1	Fiber Holder Type	1	16 mm Tight Holder S712T-016
		2	10 mm Tight Holder S712T-010
		3	Fiber Holder System
X2	Number of Battery Pack (S943B)	1	1 pack (with 1 S958B battery charger and 1 S977A AC adaptor)
		2	2 packs (with 1 S958B battery charger and 1 S977A AC adaptor)

The Furukawa Electric Group strives to develop environmentally considerate products.

Stop Global Warming!
FURUKAWA ELECTRIC Team Minus 6%

eFriendly Logo Mark
This logo mark indicates that the products and services satisfy the standards of environmentally friendly products of the Furukawa Electric Group.

ISO 14001
Our Group has configured the environmental management system at each of our plants worldwide, and acquired ISO14001 certification.

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FITEL- The launch of 2 new Fusion Splicers - S178A & S153A

In January 2010 Furukawa Electric Co. LTD. (FEC) will introduce the latest FITEL Core Alignment Fusion Splicer.

The S178A.

The S178A is the successor to the best selling S177A. The S178A has a more rugged, compact and lighter body compared to the previous model with vastly improved splicing & heating time.

Using the same rugged metal body of S178A, FEC will also launch another new Fusion Splicer in February 2010.

The S153A.

The S153A is a new concept machine which uses an 'Active clad alignment' function, which achieves lower splicing loss with less user skills required compared to a conventional Fixed V-groove Clad Alignment Fusion Splicer.

These two machines are both designed to endure harsh operating conditions by improving shock / impact resistance with rubber pads embedded on 4 corners of the splicer body. Both fusion splicers also achieve water resistance compliant to IPX2 and dust resistance compliant to IP5X.

Another key feature of the S178A and the S153A is the significantly reduced operation time. Protection sleeve shrink time is mere 25 seconds, while splicing requires only 7 seconds with S178A. Power saving technology used in these machines allows up to 200 splicing cycles (splicing and heating) with 2 built in rechargeable batteries.

By combining improved speed, precision, durability and portability in one body, the S178A and S153A ushers in entirely new possibilities for fusion splicing applications.

■ Background of development

Currently, Core Alignment fusion splicers are widely used in FTTx, LAN, Long-haul installation, data center and/or OEM applications across the world and traditionally FITEL is well known for its hand-held fusion splicer series. With this even more compact S178A, FEC applied new design ideas to meet our customer's requirements for more rugged splicers resulting in increased drop/water/dust resistance. The S178A also enables shorter splicing/heating time by using a redeveloped electronic circuit and design. In using this new design, FEC also achieved 30% less power consumption when the unit is in stand-by mode compared with the previous model (S177A).

The S178A is capable of splicing common telecommunication fibers such as SM / MM / DS and EDF/ High-delta fibers which is also widely used for optical components. In addition, the S178A also boasts splice programs for BIF / UBIF (Bend Insensitive Fiber / Ultra Bend Insensitive Fiber) which has been in more common use for FTTH applications.

The S153A (Active Clad Alignment Splicer) is developed based on the concept of 'Easy and precise splicing by anybody'. The S153A can perform hassle free splicing compared with conventional Clad Alignment Splicers, with an apparent cost benefit compared to Core Alignment Splicers. S153A, users can enjoy almost the same benefit as S178A users, in speed, precision, durability and portability.

■Features

○ Shock resistant design

4 rubber pads on the corners of the machine boosts the shock resistance significantly compared with the previous models. The S178 is capable of producing precise splicing after 76cm drops from 5 different angles. *1

○ Dust / Water resistant design

New design achieved IPX2 water resistance and IP5X dust resistance.*2 *3

○ Compatible with Splice on Connector (SOC)

Both S178A and S153A are SOC compatible with Seikoh Giken and Diamond SA connectors.

■ Specification

	S178A	S153A
Applicable fibers	**SM, MM, DSF,EDF,BIF/UBIF**	**SM, MM, DSF, BIF/UBIF**
Cladding Diameter	**80μm ~ 150μm**	
Splice Time	**7 sec** *4	**9 sec** *4
Heating Time	**25 sec** *5	
Battery Capacity	**200 cycles** *6	
Dimension (mm): Excluding Rubber Pads	**127W x 199D x 105H**	
Weight ((kg): Excluding Batteries	**1.9**	**1.7**

*1These test were performed at Furukawa Electric Co. LTD. Laboratories, and do not guarantee that the machine will be undamaged under these conditions. Impact angles are Front, Rear, Bottom, Left & Right hand side. *2: IPX2 rating drip proof means that the machine can be exposed to 3mm/min drip for 10 min with 15°tilt and still function. *3: IP5X rating dust proof means that the machine can be exposed to dust particles with a diameter of 0.1 μm to 25μm for 8 hours and still function. *4: Using Semi auto mode. *5: Using S921 (60mm) or S922 (40mm) protection sleeves, using Pre-heating mode. *6: The number of the splice and heat cycles the machine can produce using 2 fully charged brand new batteries at room temperature of 20 degree Celsius. Depending on the condition of the battery and the operational environment, this number may vary.

Скалыватель

Ручной высокопрецизионный скалыватель S325A

ОСНОВНЫЕ ХАРАКТЕРИСТИКИ:

- **Пошаговое действие**
- **Работает где угодно! - У Вас в руках или на рабочем столе**
- **Легкая загрузка волокон**
- **Простой принцип действия**
- **Сборник волоконных отходов большой емкости**
- **Прочный дизайн**
- **Простое обслуживание на рабочем месте**

ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ:

Типы волокон	Все типы волокон, одиночные и ленточные с числом волокон до 12
Диаметр внутренней оболочки	0,125 мм
Диаметр внешней оболочки	0,25 мм и 0,9 мм для одиночных волокон; толщина от 0,3 мм до 0,4 мм для лент
Длина скола	Одиночное волокно: заданная длина – 10 и 16 мм, регулируемая длина – от 3 до 20 мм Ленточное волокно: заданная длина 10 мм
Габариты (Д × Ш × В) / масса	93 × 68 × 52 мм, 330 г

* S325S80 Также в наличии высокопрецизионный скалыватель для волокон 80 мкм.

СТАНДАРТНЫЕ КОМПОНЕНТЫ:

Номер для заказа	Описание	Кол-во
S325X-01	Главный блок	1
S325X-02	Мягкий переносной кейс	1
S325X-03	Стандартный сборник волоконных отходов	2
S325X-04	Адаптер для одиночных волокон	1
S325X-05	Сборник волоконных отходов большой емкости	1
FTS-B277	Руководство пользователя	1

Скалыватели для одиночных волокон S310 и S315

Полевые скалыватели для одиночных волокон FITEL S310 и S315 сконструированы для быстрой и легкой резки волокон в полевых условиях. Полевые скалыватели S310 и S315 могут быть приспособлены к внешним оболочкам диаметром 0,25 и 0,9 мм, а компактные размеры и малый вес делают их идеальным дополнением к любой полевой сварочной системе. Полевые скалыватели S310 и S315 требуют определенных навыков для получения необходимого угла скола. Для некоторых типов сварочных работ эти модели могут оказаться неподходящими. S310 специально сконструирован для точной резки волокон длиной 16 мм в полевых условиях. S315 оснащен калиброванной шкалой, которая позволяет резать волокна длиной от 5 до 20 мм.

ДОПУСТИМЫЕ ОПТИЧЕСКИЕ ВОЛОКНА:

Оптические волокна на основе силикатного стекла, одиночное волокно, диаметр внешней оболочки 0,25 и 0,9 мм, диаметр внутренней оболочки 0,125 мм.

МОДЕЛИ:

S310: Для резки волокон длиной 16 мм

S315: Для резки волокон длиной от 5 до 20 мм, регулируемой с помощью шкалы

Габариты (Д × Ш × В)	20 × 125 × 42 мм
Масса	65 г